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ARS-58

December 1986

A Bibliography of Maize Weevils, Sitophilus zeamais Motschulsky (Coleoptera: Curculionidae)

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ABSTRACT

Throne, James E. 1986. A Bibliography of Maize Weevils, Sitophilus zeamais Motschulsky (Coleoptera: Curculionidae). U.S. Department of Agriculture, Agricultural Research Service, ARS-58, 32 pp.

This bibliography is a listing of publications about maize weevils, with citations grouped by subject matter.

KEYWORDS: Bibliography, maize weevils, Sitophilus zeamais.

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A Bibliography of Maize Weevils, Sitophilus zeamais Motschulsky
(Coleoptera: Curculionidae)

Compiled by James E. Throne^{1/}

Maize weevils, Sitophilus zeamais Motschulsky (Coleoptera: Curculionidae), are important pests of stored products throughout most of the world. Although they are primarily pests of stored grain, they have been found in apples, barley, beans, cashews, cassava, cocoa, corn, millet, oats, peanuts, rice, sorghum, sunflower, tomatoes, wheat, and yams. Maize weevils have been reported in Angola, Antigua, Argentina, Australia, Bahrain, Belize, Benin, Botswana, Brazil, Burma, Canada, Central African Republic, Colombia, Costa Rica, Czechoslovakia, Easter Island, Egypt, El Salvador, Ethiopia, French Guiana, Gambia, German Democratic Republic, German Federal Republic, Ghana, Greece, Guatemala, Guyana, India, Indonesia, Israel, Italy, Jamaica, Japan, Kenya, Kuwait, Libya, Madagascar, Malawi, Malaysia, Mexico, Morocco, Mozambique, New Caledonia, New Guinea, Nicaragua, Nigeria, People's Republic of China, Peru, Philippines, Portugal, Republic of China, Saudi Arabia, Senegal, Sierra Leone, Singapore, Somalia, South Africa, South Korea, Soviet Union, Sri Lanka, Swaziland, Tanzania, Trinidad, Turkey, Uganda, United Kingdom, United States, Uruguay, Yugoslavia, Zambia, and Zimbabwe.

Maize weevils and closely related rice weevils, S. oryzae (L.), are similar in external morphology. There has been some confusion as to whether they are two distinct species (Boudreaux 1969).

Prior to 1944, most workers considered both species to be rice weevils, S. oryzae. It is not possible to determine which species was used in most studies published before 1944. Between 1944 and 1959, both were considered to be strains of the rice weevil, S. oryzae (Birch 1944, Richards 1944). Maize weevils were referred to as "the large strain" and rice weevils as "the small strain" of S. oryzae. Most papers published during this period identified the strain of S. oryzae used in the study. In 1959, maize weevils and rice weevils were again separated into two species based on morphological and biological differences (Floyd and Newsom 1959). However, the "large strain" was given the name S. oryzae, and S. sasakii was applied to the "small strain." Kuschel (1961, 1978) established the correct names for the two species.

Morrison (1964) published an annotated bibliography relevant to the ecology of maize weevils. Longstaff (1981) reviewed the biology of maize weevils, rice weevils, and granary weevils, S. granarius (L.), and included an annotated bibliography on the biology of the three species. The present work is intended to be a complete bibliography of maize weevils. It should assist entomologists in obtaining information on maize weevils, and also it emphasizes those areas requiring more research. Control of maize weevils with chemicals and resistant plant varieties has been intensively investigated. However, this bibliography emphasizes that little work has been done to develop methods for sampling maize weevils to estimate population levels, to develop economic threshold levels for maize weevils, or to use natural enemies in control strategies.

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Most articles published since the original description of the species in 1855 through 1985 have been included here except unpublished theses and dissertations. Bibliographic sources consulted were the Review of Applied Entomology - series A (RAE) for 1965-85, the Bibliography of Agriculture (BA) for 1945-68, and the literature citations in papers. All articles

except those followed by a citation in a bibliographic source were available to the compiler. Citations have been divided into general subject areas; however, many include additional information on subjects other than the categories in which they are listed. A few citations are given in more than one subject area.

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CONTROL

Chemical

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